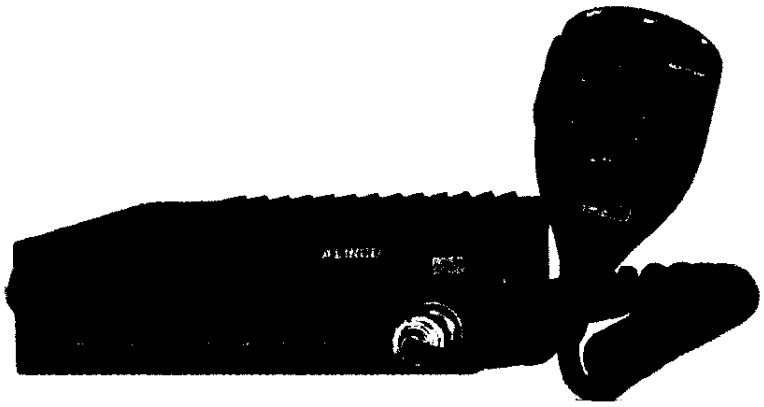
ALINCO

VHF FM TRANSCEIVER

DR-112 T/E

Service Manual



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ALINCO ELECTRONICS INC.

■ PARTS LIST

Ref. No	Part Code	Part Name and Number
APC Unit		
R1	RK0039	Chip R, MCR10EZHJ222E
R2	RK0035	Chip R, MCR10EZHJ102E
R3	RK0037	Chip R, MCR10EZHJ152E
R4	RK0052	Chip R, MCR10EZHJ103E
R5	RK0052	Chip R, MCR10EZHJ103E
R6	RK0036	Chip R, MCR10EZHJ122E
C1	CU8016	Chip C, C2012B1H102K
C2	CS0064	Chip Tantal, TMC1A155TR
C3	CU8024	Chip C, C2012B1H472K
C4	CU8016	Chip C, C2012B1H102K
C5	CU8024	Chip C, C2012B1H472K
C6	CU8016	Chip C, C2012B1H102K
Q1	XU0020	Transistor FMW1T98
Q2	XU0020	Transistor FMW1T98
Q3	XU0038	Transistor 2SA1037KT96R
Lock SW Unit		
R1	RK0045	Chip R, MCR10EZHJ472E
R2	RK0045	Chip R, MCR10EZHJ472E
R3	RK0045	Chip R, MCR10EZHJ472E
R4	RK0045	Chip R, MCR10EZHJ472E
R5	RK0045	Chip R, MCR10EZHJ472E
R6	RK0052	Chip R, MCR10EZHJ103E
C1	CU8016	Chip C, C2012B1H102K
C2	CU8016	Chip C, C2012B1H102K
D1	XD0040	Diode DAN202K T96
Q1	XT0038	Transistor 2SA1037KT96R
Q2	XT0038	Transistor 2SA1037KT96R
Q3	XT0037	Transistor 2SC2412KT96R
IF Unit		
R1	RK0069	Chip R, MCR10EZHJ104E
R2	RK0069	Chip R, MCR10EZHJ104E
R4	RK0042	Chip R, MCR10EZHJ332E
R5	RK0038	Chip R, MCR10EZHJ182E
C2	CU8016	Chip C, C2012B1H102K
C3	CU0066	Chip C, C2012CH1H330J
C4	CU8024	Chip C, C2012B1H472K
C5	CU2059	Chip C, C2012SL1H561J
C6	CU8024	Chip C, C2012B1H472K
C7	CU8028	Chip C, C2012B1H103K
C8	CU8003	Chip C, C2012JF1E104Z
C9	CU8003	Chip C, C2012JF1E104Z
C10	CU8003	Chip C, C2012JF1E104Z
IC1	XA0070	IC, MC3361D T
L1	QC0049	Coil, NL322522T-221K
L2	QC0050	Coil, NL453232T-102K
SQL Unit		
R1	RK0069	Chip R, MCR10EZJH104E
R2	RK0040	Chip R, MCR10EZJH272E
R3	RK0039	Chip R, MCR10EZJH222E
R4	RK0056	Chip R, MCR10EZJH223E
R5	RK0042	Chip R, MCR10EZJH332E
R6	RK0048	Chip R, MCR10EZJH682E
R7	RK0052	Chip R, MCR10EZJH103E
R8	RK0069	Chip R, MCR10EZJH104E
R9	RK0045	Chip R, MCR10EZJH472E
R10	RK0079	Chip R, MCR10EZJH474E
R11	RK0057	Chip R, MCR10EZJH273E
R12	RK0056	Chip R, MCR10EZJH223E
R13	RK0039	Chip R, MCR10EZJH222E
R14	RK0061	Chip R, MCR10EZJH393E
R15	RK0057	Chip R, MCR10EZJH273E
R17	RK0039	Chip R, MCR10EZJH222E

Ref. No.	Part Code	Part Name and Number
C1	CU8016	Chip C, C2012B1H102K
C2	CU0066	Chip C, C2012CH1H330J
C4	CU9015	Chip C, 32161E 0.1 µFZ
C5	CU8038	Chip C, CM316Y5V105Z25VAT
C6	CS0065	Chip Tantal, TMC1D684TR
C7	CU8035	Chip C, C2012B1E393K
C8	CU8035	Chip C, C2012B1E393K
C9	CU8030	Chip C, C2012B1H153K
C10	CU8034	Chip C, C2012B1E333K
D1	XD0103	Diode ISS226TE85L
D2	XD0041	Diode DAP202KT96
Q1	XT0037	Transistor, 2SC2412KT96R
Q2	XT0037	Transistor, 2SC2412KT96R
Q3	XT0076	Transistor, 2SC3295BTE85L
Q4	XT0076	Transistor, 2SC3295BTE85L
Q5	XT0037	Transistor, 2SC2412KT96R
Q6	XT0037	Transistor, 2SC2412KT96R
MIC Unit		
R1	RK0053	Chip R, MCR10EZHJ123E
R2	RK0062	Chip R, MCR10EZHJ473E
R3	RK0064	Chip R, MCR10EZHJ563E
R4	RK0018	Chip R, MCR10EZHJ101E
R5	RK0071	Chip R, MCR10EZHJ154E
R6	RK0069	Chip R, MCR10EZHJ104E
R7	RK0018	Chip R, MCR10EZHJ101E
R8	RK0062	Chip R, MCR10EZHJ473E
R9	RK0062	Chip R, MCR10EZHJ473E
R10	RK0030	Chip R, MCR10EZHJ561E
R11	RK0074	Chip R, MCR10EZHJ274E
R12	RK0064	Chip R, MCR10EZHJ563E
R13	RK0073	Chip R, MCR10EZHJ224E
R14	RK0067	Chip R, MCR10EZHJ823E
R15	RK0067	Chip R, MCR10EZHJ823E
R16	RK0067	Chip R, MCR10EZHJ823E
R17	RK0052	Chip R, MCR10EZHJ103E
R18	RK0107	Chip R, MCR10EZHJ000E
C1	CU8032	Chip C, C2012B1E223K
C2	CU8038	Chip C, CM316Y5V105Z25VAT
C3	CU8034	Chip C, C2012B1E333K
C4	CU8032	Chip C, C2012B1E223K
C6	CU8038	Chip C, CM316Y5V105Z25VAT
C7	CU0071	Chip C, C2012CH1H101J
C8	CU8021	Chip C, C2012B1H272K
C9	CU8038	Chip C, CM316Y5V105Z25VAT
C10	CU0071	Chip C, C2012CH1H101J
C11	CU8015	Chip C, C2012B1H821K
IC1	XA0068	IC, M5218FP-T01-1
IC2	XA0068	IC, M5218FP-T01-1
1750 Hz Tone Burst Unit		
R1	RK0079	Chip R, MCR10EZHJ474E
R2	RK0062	Chip R, MCR10EZHJ473E
R3	RK0069	Chip R, MCR10EZHJ104E
R4	RK0056	Chip R, MCR10EZHJ223E
R5	RK0052	Chip R, MCR10EZHJ103E
R7	RK0107	Chip R, MCR10EZHJ000E
R8	RK0107	Chip R, MCR10EZHJ000E
R9	RK0066	Chip R, MCR10EZHJ105E
R10	RK0107	Chip R, MCR10EZHJ000E
R11	RK0062	Chip R, MCR10EZHJ473E
R12	RK0018	Chip R, MCR10EZHJ101E
R13	RK0035	Chip R, MCR10EZHJ102E
R14	RK0035	Chip R, MCR10EZHJ102E
R15	RK0062	Chip R, MCR10EZHJ473E
R16	RK0107	Chip R, MCR10EZHJ000E
R17	RK0107	Chip R, MCR10EZHJ000E
R18	RK0062	Chip R, MCR10EZHJ473E
R19	RK0107	Chip R, MCR10EZHJ000E
VR1	RH0031	VR, CVR-42A-103AW1D

Ref. No.	Part Code	Part Name and Number
Q1	XT0037	Transistor, 2SC2412KT96R
Q2	XT0038	Transistor, 2SA1037KT96R
X1	XQ0021	X'Tal DSMAT 3.58 MHz
IC2	XA0084	IC, MPD4020BG-T1
IC3	XA0085	IC, MPD4069BG-T1
Tone Squelch Unit		
R1	RK0062	Chip R, MCR10EZHJ473E
R2	RK0062	Chip R, MCR10EZHJ473E
R3	RK0039	Chip R, MCR10EZHJ222E
R4	RK0073	Chip R, MCR10EZHJ224E
R5	RK0062	Chip R, MCR10EZHJ473E
R6	RK0031	Chip R, MCR10EZHJ681E
R7	RK0052	Chip R, MCR10EZHJ103E
R8	RK0052	Chip R, MCR10EZHJ103E
R9	RK0039	Chip R, MCR10EZHJ222E
R10	RK0066	Chip R, MCR10EZHJ105E
R11	RK0062	Chip R, MCR10EZHJ473E
R12	RK0022	Chip R, MCR10EZHJ221E
R13	RK0052	Chip R, MCR10EZHJ103E
R14	RK0050	Chip R, MCR10EZHJ822E
R15	RK0039	Chip R, MCR10EZHJ222E
R16	RK0071	Chip R, MCR10EZHJ154E
R17	RK0053	Chip R, MCR10EZHJ123E
R18	RK0050	Chip R, MCR10EZHJ822E
R19	RK0035	Chip R, MCR10EZHJ102E
R20	RK0107	Chip R, MCR10EZHJ000E
C1	CS0049	Chip Tantal, TMC1C105TR
C2	CS0049	Chip Tantal, TMC1C105TR
C3	CU8003	Chip C, C2012JF1E104Z
C4	CU8003	Chip C, C2012JF1E104Z
C5	CU8028	Chip C, C2012B1H103K
C6	CU0051	Chip Tantal, TMC1C106TR
C8	CU8003	Chip C, C2012JF1E104Z
C11	CS0051	Chip Tantal, TMC1C106TR
C12	CS0049	Chip Tantal, TMC1C105TR
C13	CU8038	Chip C, C3216B1H105K
C14	CS0049	Chip Tantal, TMC1C105TR
C15	CS0050	Chip Tantal, TMC1A475TR
C16	CC0105	Ceramic C, 50 V 4 pF CH
C17	CU8003	Chip C, C2012JF1E104Z
Q1	XU0002	Transistor, DTC114YKT96
Q2	XU0002	Transistor, DTC114YKT96
Q3	XT0037	Transistor, 2SC2412KT96R
Q4	XU0002	Transistor, DTC114YKT96
Q5	XU0002	Transistor, DTC114YKT96
Q6	XT0037	Transistor, 2SC2412KT96R
Q7	XU0002	Transistor, DTC114YKT96
IC1	XA0020	IC, MN6520
IC2	XA0019	IC, MPD4094BG
FAR1	XB0002	FAR, C4CA04194000K01
VR1	RH0051	VR, CVR-42A-472AW1D

MAIN Unit

Ref No.	Part Code	Part Name and Number
C1	CU0066	Chip C, 2125CH1H330J
C2	CU0061	Chip C, 2125CH1H120J
C3	CU0009	Chip C, 2125CH1H080D
C4	CU0010	Chip C, 2125CH1H090D
C5	CU8016	Chip C, 2125B1H102K
C6	CU8016	Chip C, 2125B1H102K
C7	CU8028	Chip C, 2125B1H103K
C8	CU8016	Chip C, 2125B1H102K
C9	CU8016	Chip C, 2125B1H102K
C10	CU8028	Chip C, 2125B1H103K
C11	CU0005	Chip C, 2125CH1H040C
C12	CU0062	Chip C, 2125CH1H150J
C13	CU8016	Chip C, 2125B1H102K
C14	CU8028	Chip C, 2125B1H103K
C15	CU0006	Chip C, 2125CH1H050C
C16	CU8016	Chip C, 2125B1H102K
C17	CU8028	Chip C, 2125B1H103K
C18	CU8028	Chip C, 2125B1H103K
C19	CU8028	Chip C, 2125B1H103K
C20	CU8016	Chip C, 2125B1H102K
C21	CU0064	Chemical C, 10 V MS947
C22	CU2073	Chip C, 2125CHSL151J
C23	CU8028	Chip C, 2125B1H103K
C25	CU0066	Chip C, 2125CH1H330J
C26	CE0030	Chemical C, 16 V MS710
C27	CU8016	Chip C, 2125B1H102K
C29	CU8028	Chip C, 2125B1H103K
C30	CE0064	Chemical C, 10 V MS947
C31	CE0064	Chemical C, 10 V MS947
C32	CU8003	Chip C, 21251EY104Z
C33	CU8003	Chip C, 21251EY104Z
C34	CU8028	Chip C, 2125B1H103K
C35	CU8016	Chip C, 2125B1H102K
C36	CU8016	Chip C, 2125B1H102K
C37	CE0064	Chemical C, 10 V MS947
C38	CU8034	Chip C, 2125B1E333K
C39	CE0064	Chemical C, 10 V MS947
C40	CU8038	Chip C, 3216Y5V1E105Z
C41	CU8028	Chip C, 2125B1H103K
C42	CE0064	Chemical C, 10 V MS947
C43	CU8028	Chip C, 2125B1H103K
C44	CE0151	Chemical C, 10 V SSP 470
C45	CS0049	Chip Tantal TMC 1C105
C46	CE0064	Chemical C, 10 V MS947
C47	CU8016	Chip C, 2125B1H102K
C48	CU8028	Chip C, 2125B1H103K
C49	CU8028	Chip C, 2125B1H103K
C50	CU8028	Chip C, 2125B1H103K
C53	CU8028	Chip C, 2125B1H103K
C54	CU0064	Chip C, 2125CH1H220J
C55	CU0043	Chip C, 2125CHCH221K
C56	CU0071	Chip C, 2125CH1H101J
C57	CU0071	Chip C, 2125CH1H101J
C59	CQ0007	Film C, 50 V F2M473K
C60	CU0071	Chip C, 2125CH1H101J
C61	CU2051	Chip C, 2125CHSL471K
C62	CU8019	Chip C, 2125B1H182K
C63	CU8028	Chip C, 2125B1H103K
C65	CU8016	Chip C, 2125B1H102K
C66	CS0060	Chip Tantal TMC1E474
C67	CU8028	Chip C, 2125B1H103K
C69	CS0049	Chip Tantal, TMCIC105
C70	CE0199	Chemical C, 16 V MS7100
C72	CU0066	Chip C, 2125CH1H330J
C73	CU8016	Chip C, 2125B1H102K
C74	CU0066	Chip C, 2125CH1H330J
C75	CU8028	Chip C, 2125B1H103K
C76	CU0011	Chip C, 2125CH1H100D
C77	CU8016	Chip C, 2125B1H102K
C78	CU0011	Chip C, 2125CH1H100D
C79	CU8028	Chip C, 2125B1H103K
C80	CU2051	Chip C, 2125CHSL471K
C81	CU8016	Chip C, 2125B1H102K
C82	CU8028	Chip C, 2125B1H103K

Ref. No.	Part Code	Part Name and Number
C84	CU8028	Chip C, 2125B1H103K
C85	CU8028	Chip C, 2125B1H103K
C86	CU8038	Chip C, 3216Y5V1E105Z
C87	CU8034	Chip C, 2125B1E333K
C88	CE0064	Chemical C, 10 V MS947
C89	CE0064	Chemical C, 10 V MS947
C90	CE0064	Chemical C, 10 V MS947
C91	CE0151	Chemical C, 10 V SSP470
C92	CU8003	Chip C, 21251EY104Z
C93	CE0163	Chemical C, 16 V SSP1000
C96	CE0125	Chemical C, 25 V MS74R7
C97	CE0030	Chemical C, 16 V MS710
C101	CE0030	Chemical C, 16 V MS710
C102		
C103	CE0199	Chemical C, 16 V MS7100
C114	CU0006	Chip C, 2125CH1H050C
C115	CU0061	Chip C, 2125CH1H120J
C116	CU0006	Chip C, 2125CH1H050C
C117	CU0061	Chip C, 2125CH1H120J
C118	CU0064	Chip C, 2125CH1H220J
C120	CS0033	Chip Tantal TMC1A225TR
C121	CU8016	Chip C, 2125B1H102K
C122	CU8016	Chip C, 2125B1H102K
C123	CU0071	Chip C, 2125CH1H101J
C124	CU0071	Chip C, 2125CH1H101J
C125	CU0071	Chip C, 2125CH1H101J
C126	CU0071	Chip C, 2125CH1H101J
C127	CU8016	Chip C, 2125B1H102K
C128	CQ0007	Film C, 50 F2M473K
C130	CS0064	Chip Tantal TMC1A155TR
R1	RK0047	Chip R, 2125MCR10000
R2	RK0052	Chip R, 2125MCR10103J
R3	RK0056	Chip R, 2125MCR10223J
R4	RK0018	Chip R, 2125MCR10101J
R5	RK0011	Chip R, 2125MCR10470J
R6	RK0025	Chip R, 2125MCR10331J
R7	RK0011	Chip R, 2125MCR10470J
R8	RK0052	Chip R, 2125MCR10103J
R9	RK0062	Chip R, 2125MCR10473J
R10	RK0011	Chip R, 2125MCR10470J
R11	RK0062	Chip R, 2125MCR10473J
R12	RK0035	Chip R, 2125MCR10102J
R13	RK0001	Chip R, 2125MCR10100J
R14	RK0074	Chip R, 2125MCR10274J
R15	RK0018	Chip R, 2125MCR10101J
R16	RK0038	Chip R, 2125MCR10182J
R17	RK0062	Chip R, 2125MCR10473J
R18	RK0052	Chip R, 2125MCR10103J
R19	RK0018	Chip R, 2125MCR10101J
R20	RK0028	Chip R, 2125MCR10471J
R21	RK0018	Chip R, 2125MCR10101J
R23	RK0038	Chip R, 2125MCR10182J
R25	RK0059	Chip R, 2125MCR10333J
R26	RK0035	Chip R, 2125MCR10102J
R27	RK0045	Chip R, 2125MCR10472J
R28	RK0056	Chip R, 2125MCR10223J
R29	RK0052	Chip R, 2125MCR10103J
R30	RK0057	Chip R, 2125MCR10273J
R31	RK0035	Chip R, 2125MCR10102J
R33	RK0069	Chip R, 2125MCR10104J
R34	RK0039	Chip R, 2125MCR10222J
R35	RK0107	Chip R, 2125MCR10000
R36	RK0038	Chip R, 2125MCR10182J
R37	RK0052	Chip R, 2125MCR10103J
R38	RK0038	Chip R, 2125MCR10182J
R40	RK0052	Chip R, 2125MCR10103J
R44	RK0045	Chip R, 2125MCR10472J
R45	RK0062	Chip R, 2125MCR10473J
R46	RK0062	Chip R, 2125MCR10473J
R47	RK0062	Chip R, 2125MCR10473J
R48	RK0062	Chip R, 2125MCR10473J
R49	RK0062	Chip R, 2125MCR10473J
R50	RK0048	Chip R, 2125MCR10682J
R51	RK0076	Chip R, 2125MCR10334J
R52	RK0044	Chip R, 2125MCR10392J
R53	RK0076	Chip R, 2125MCR10334J

Ref. No.	Part Code	Part Name and Number
R54	RK0044	Chip R, 2125MCR10392J
R55	RK0056	Chip R, 2125MCR10223J
R56	RK0039	Chip R, 2125MCR10222J
R58	RK0018	Chip R, 2125MCR10101J
R59	RK0056	Chip R, 2125MCR10223J
R60	RK0052	Chip R, 2125MCR10103J
R62	RK0052	Chip R, 2125MCR10103J
R63	RK0062	Chip R, 2125MCR10473J
R64	RK0040	Chip R, 2125MCR10272J
R65	RK0040	Chip R, 2125MCR10272J
R66	RK0060	Chip R, 2125MCR10822J
R67	RK0038	Chip R, 2125MCR10182J
R68	RK0052	Chip R, 2125MCR10103J
R69	RK0052	Chip R, 2125MCR10103J
R70	RK0045	Chip R, 2125MCR10472J
R71	RK0056	Chip R, 2125MCR10223J
R72	RK0052	Chip R, 2125MCR10103J
R73	RK0056	Chip R, 2125MCR10223J
R74	RK0018	Chip R, 2125MCR10101J
R75	RK0035	Chip R, 2125MCR10102J
R76	RK0018	Chip R, 2125MCR10101J
R77	RK0035	Chip R, 2125MCR10102J
R78	RK0056	Chip R, 2125MCR10223J
R79	RK0052	Chip R, 2125MCR10103J
R80	RK0018	Chip R, 2125MCR10101J
R81	RK0052	Chip R, 2125MCR10103J
R82	RK0052	Chip R, 2125MCR10103J
R83	RK0031	Chip R, 2125MCR10681J
R84	RK0035	Chip R, 2125MCR10102J
R85	RK0062	Chip R, 2125MCR10473J
R86	RK0105	Chip R, 2125MCR102R2J
R87	RK0062	Chip R, 2125MCR10473J
R88	RK0057	Chip R, 2125MCR10273J
R89	RK0018	Chip R, 2125MCR10101J
R90	RK0038	Chip R, 2125MCR10182J
R91	RK0020	Chip R, 2125MCR10151J
R94	RK0039	Chip R, 2125MCR10222J
R95	RK2008	Chip R, 2125MCR10220E
R96	RK0069	Chip R, 2125MCR10104J
R97	RK0052	Chip R, 2125MCR10103J
R98	RK0069	Chip R, 2125MCR10104J
R100	RK0045	Chip R, 2125MCR10472J
R101		
R102	RK0045	Chip R, 2125MCR10472J
R103	RK0055	Chip R, 2125MCR10183J
R104	RK0052	Chip R, 2125MCR10103J
R105	RK0056	Chip R, 2125MCR10223J
R106	RK0057	Chip R, 2125MCR10273J
R107	RK0081	Chip R, 2125MCR10564J
R108	RK0039	Chip R, 2125MCR10222J
R109	RK0035	Chip R, 2125MCR10102J
R110	RK0069	Chip R, 2125MCR10104J
R111	RK0069	Chip R, 2125MCR10104J
R112	RK0069	Chip R, 2125MCR10104J
R113	RK0062	Chip R, 2125MCR10473J
R114	RK0035	Chip R, 2125MCR10102J
R115	RK0035	Chip R, 2125MCR10102J
R116	RK0035	Chip R, 2125MCR10102J
R118	RK0107	Chip R, 2125MCR10000
R121	RK0107	Chip R, 2125MCR10000
R122	RK0107	Chip R, 2125MCR10000
R124	RK0107	Chip R, 2125MCR10000
R127	RK0056	Chip R, 2125MCR10223J
R128	RK0057	Chip R, 2125MCR10273J
R129	RK0008	Chip R, 2125MCR10330J
R130	RK0052	Chip R, 2125MCR10103J
R131	RK0052	Chip R, 2125MCR10103J
R132	RK0056	Chip R, 2125MCR10223J
R135	RK0035	Chip R, 2125MCR10102J
R136	RD0116	R, R20R02JIRO
R137	RK0035	Chip R, 2125MCR10102J
IC1	XA0082	IC, MC7808CT
IC2	XA0078	IC, M54959P
IC4	XA0079	IC, MPC1241H

Ref. No.	Part Code	Part Name and Number
VR1	RH0043	VR, VM6CK-PV-1S501B
VR2	RH0044	VR, VM6CK-PV-1S103B
VR3	RH0044	VR, VM6CK-PV-1S103B
VR4	RH0046	VR, VM6CK-PV-1S503B
VR5	RH0046	VR, VM6CK-PV-1S503B
VR6	RH0044	VR, VM6CK-PV-1S103B
VR7	RH0045	VR, VM6CK-PV-1S303B
VR9	RH0021	VR, H0651A 10KB
FL1	XF0004	X. Fil, 10.7M15A49/T
FL2	XF0001	Ceramic Fil, CFW455F
X1	XQ0037	X'tal HC-49/u 12.8 MHz
X2	XQ0033	X'tal HC-49/u 10.245 MHz
TH1	XS0004	Thermistor TD5A150D
TC1	CT0015	Trimmer C, CV05A0601
TC3	CT0025	Trimmer C, ECRLA020E12
TC4	CT0025	Trimmer C, ECRLA020E12
D1	XD0103	D, ISS226TE85L
D2	XD0041	D, DAP202KT96
D3	XD0040	D, DAN202KT96
D4	XD0040	D, DAN202KT96
D5	XD0104	Zener 02CZ6.2YTE85L
D6	XD0041	D, DAP202KT96
D7	XD0070	D, ISS265
D8	XD0070	D, ISS265
D9	XD0041	D, DAP202KT96
D10	XD0058	D, ISS181
D11	XD0100	Vari cap, ISV164T1
D12	XD0100	Vari cap, ISV164T1
D13	XD0100	Vari cap, ISV164T1
D15	XD0078	D, DAN235KT96
D16	XD0078	D, DAN235KT96
D17	XD0040	D, DAN202KT96
D18	XD0040	D, DAN202KT96
D19	XD0080	D, RB400DT96
D20	XD0080	D, RB400DT96
D21	XD0112	D, ISV128
Q1	XE0013	Chip FET, 3SK184STX
Q2	XE0012	Chip FET, 3SK131V12T1
Q3	XT0059	Chip TR, 2SC3082KT96Q
Q4	XT0077	Chip TR, 2SC3326ATE85L
Q5	XT0061	Chip TR, 2SB1132T100Q
Q6	XT0061	Chip TR, 2SB1132T100Q
Q7	XU0018	Digital TR, DTC124EKT96
Q8	XU0018	Digital TR, DTC124EKT96
Q9	XT0037	Chip TR, 2SC2412KT96R
Q11	XT0081	Chip TR, 2SC2714Y
Q12	XT0081	Chip TR, 2SC2714Y
Q13	XT0037	Chip TR, 2SC2412KT96R
Q14	XT0037	Chip TR, 2SC2412KT96R
Q15	XT0038	Chip TR, 2SA1037KT96R
Q16	XT0030	Chip TR, 2SC3356T1
Q17	XT0030	Chip TR, 2SC3356T1
Q18	XT0037	Chip TR, 2SC2412KT96R
Q19	XT0078	TR, 2SC3369
Q20	XT0064	TR, 2SD1781E
Q21	XT0037	Chip TR, 2SC2412KT96R
Q22	XT0037	Chip TR, 2SC2412KT96R
Q23	XT0037	Chip TR, 2SC2412KT96R
Q24	XU0012	Digital TR, DTC114EKT96
L1	QA0038	Coil, 144MRF
L2	QA0038	Coil, 144MRF
L3	QA0053	Coil, 144M
L4	QA0053	Coil, 144M
L5	QA0054	Coil, 144M
L6	QA0037	Coil, 144MTC
L7	QA0039	Coil, 10R7MIF
L8	QA0039	Coil, 10R7MIF
L10	QA0041	Coil, 455KIF

Ref. No.	Part Code	Part Name and Number
L11	QL0007	Choke coil, 1R6mHR6A
L12	QC0045	Chip L, NL322522T3R3M
L13	QC0045	Chip L, NL322522T3R3M
L14	QC0034	Chip L, NL322522TR39M
L15	QK0032	Coil, 3×4×0.6
L16	QK0042	Coil, 3×5×0.6

PA Unit

C1	CE0044	Chemical C, 16 V MS5 10M
C2	CE0044	Chemical C, 16 V MS5 10M
C3	CC5002	Ceramic C, HM60SJSL100D
C4	CC5020	Ceramic C, HM60SJSL180J
C5	CC5025	Ceramic C, HM60SJYB102K
C6	CC5020	Cermaic C, HM60SJSL180D
C7	CC5023	Ceramic C, HM60SJSL390J
C8	CC0102	Ceramic C, CC451HCH010
C9	CC5003	Ceramic C, HM60SJSL303J
C10	CC0102	Ceramic C, CC451HCH010
C11	CC5021	Ceramic C, HM60SJSL220J
C12	CU8016	Chip C, 2125B1H102K
C13	CU8016	Chip C, 2125B1H102K
C14	CU8016	Chip C, 2125B1H102K
C15	CU8016	Chip C, 2125B1H102K
C16	CU8016	Chip C, 2125B1H102K
C17	CK0003	Ceramic C, 50V102Z
C19	CU0009	Chip C, 2125CH1H080
L1	QK0044	Coil, 3×9.5×0.5
L2	QK0031	Coil, 3×6T
L3	QK0041	Coil, 3×4×0.8
L4	QK0044	Coil, 3×9.5×0.5
L5	QK0041	Coil, 3×4×0.8
L6	QK0041	Coil, 3×4×0.8
L7	QC0051	Coil, FL4HIRO
L8	QK0046	Coil, 2.2×2.25T
L9	QK0046	Coil, 2.2×2.25T
R1	RD1008	R, R50×151J
R2	RD0054	R, R20×153J
VR1	RH0048	VR, TM64K2(PH)101B
FC1	XA0043	IC, M57726
D1	XD0107	D, G3B
D2	XD0108	PWD, UM9401
D3	XD0014	PWD, MI308
D4	XD0095	D, IS2472
D5	XD0095	D, IS2472

Control Unit

C1	CU0071	Chip C, 2125CH1H101J
C2	CE0057	Chemical C, 6.3 V MS9 330M
C3	CU8016	Chip C, 2125B1H102K
C4	CU8028	Chip C, 2125B1H103K
C5	CE0033	Chemical C, 10 V MS5 10M
C6	CU8016	Chip C, 2125B1H102K
C7	CU8016	Chip C, 2125B1H102K
C8	CU8016	Chip C, 2125B1H102K
C9	CU8016	Chip C, 2125B1H102K
C10	CU8016	Chip C, 2125B1H102K
C11	CU8016	Chip C, 2125B1H102K
C12	CU8016	Chip C, 2125B1H102K
C13	CU8016	Chip C, 2125B1H102K
C14	CU8016	Chip C, 2125B1H102K
C19	CU8016	Chip C, 2125B1H102K
C20	CU8016	Chip C, 2125B1H102K
C21	CU8024	Chip C, 2125B1H472K
C24	CU0071	Chip C, 2125CH1H101J
C25	CU0071	Chip C, 2125CH1H101J
C26	CU0071	Chip C, 2125CH1H101J
C27	CU0071	Chip C, 2125CH1H101J
C28	CU8016	Chip C, 2125B1H102K
C29	CU8016	Chip C, 2125B1H102K

Ref. No.	Part Code	Part Name and Number
C30	CU8016	Chip C, 2125B1H102K
C31	CU8016	Chip C, 2125B1H102K
C32	CU8016	Chip C, 2125B1H102K
C34	CU8016	Chip C, 2125B1H102K
C35	CU8016	Chip C, 2125B1H102K
PL1	EP0004	Lamp, BQ031-30659A
PL2	EP0004	Lamp, BQ031-30659A
PL3	EP0004	Lamp, BQ031-30659A
PL4	EP0003	Lamp, BQ031-30403A
PL5	EP0003	Lamp, BQ031-30403A
PL6	EP0004	Lamp, BQ031-30659A
VR1	RV0010	Vol, EVU-F2AF20B54
VR2	RV0009	Vol, EVU-F2AF20B14
IC1	XA0072	F-IC, MB88543-142M
IC2	XA0022	CMOS IC, MBL82C43PF
IC3	XA0033	IC, VPC393G-T
IC4	XA0073	F-IC, MN1280-T
IC5	XA0074	F-IC, AN8006
D1	XD0061	Chip D, DA204KT96
D2	XD0040	Chip D, DAN202KT96
D6	XD0040	Chip D, DAN202KT96
Q1	XU0015	Digital TR DTC144TKT96
Q4	XT0088	Chip TR, 2SA1213Y
Q5		
R1	RK0052	Chip R, 2125MCR10103J
R2	RK0018	Chip R, 2125MCR10101J
R3	RK0067	Chip R, 2125MCR10823
R4	RK0054	Chip R, 2125MCR10153
R5	RK0071	Chip R, 2125MCR10154
R5	RK0067	Chip R, 2125MCR10823
R7	RK0059	Chip R, 2125MCR10333
R8	RK0035	Chip R, 2125MCR10102J
R9	RK0062	Chip R, 2125MCR10473
R10	RK0062	Chip R, 2125MCR10473
R11	RK0045	Chip R, 2125MCR10472J
R12	RK0062	Chip R, 2125MCR10473J
R13	RK0062	Chip R, 2125MCR10473J
R14	RK0062	Chip R, 2125MCR10473J
R15	RK0062	Chip R, 2125MCR10473J
R16	RK0062	Chip R, 2125MCR10473J
R17	RK0062	Chip R, 2125MCR10473J
R18	RK0062	Chip R, 2125MCR10473J
R19	RK0062	Chip R, 2125MCR10473J
R20	RK0062	Chip R, 2125MCR10473J
R21	RK0062	Chip R, 2125MCR10473J
R22	RK0062	Chip R, 2125MCR10473J
R23	RK0062	Chip R, 2125MCR10473J
R24	RK0062	Chip R, 2125MCR10473J
R25	RK0062	Chip R, 2125MCR10473J
R26	RK0062	Chip R, 2125MCR10473J
T27	RK0070	Chip R, 2125MCR10124
R28	RK0070	Chip R, 2125MCR10124
R29	RK0062	Chip R, 2125MCR10473J
R30	RK0070	Chip R, 2125MCR10124J
R31	RK0070	Chip R, 2125MCR10124J
R32	RK0107	Chip R, 2125MCR10000J
R33	RK0062	Chip R, 2125MCR10473J
R34	RK0070	Chip R, 2125MCR10124J
R35	RK1035	Chip R, 3216MCR10102J
R38	RK0062	Chip R, 2125MCR10473J
R39	RK0086	Chip R, 2125MCR10105J
R40	RK1012	Chip R, 3216MCR10510J
R41	RK0038	Chip R, 2125MCR10182J
R42	RK0038	Chip R, 2125MCR10182J
R43	RK0038	Chip R, 2125MCR10182J
R44	RK0038	Chip R, 2125MCR10182J
R45	RK0038	Chip R, 2125MCR10182J
R46	RK1039	Chip R, 3216MCR10222J
R48	RK0035	Chip R, 2125MCR10102J

Ref. No.	Part Code	Part Name and Number
R49	RK0035	Chip R, 2125MCR10102J
R50	RK0035	Chip R, 2125MCR10102J
R53	RK0035	Chip R, 2125MCR10102J
R54	RK0035	Chip R, 2125MCR10102J

Drive Unit

C3	CU8028	Chip C, 2125MCR10103K
C4	CU8028	Chip C, 2125MCR10103K
C5	CU8016	Chip C, 2125MCR10102K
C7	CU8028	Chip C, 2125MCR10103K
C8	CU8028	Chip C, 2125MCR10103K
C9	CU8028	Chip C, 2125MCR10103K
C10	CU8016	Chip C, 2125MCR10102K
C11	CS0049	Chip Tantal, TMC1C105TR
C12	CU0003	Chip C, 2125MCR10020C
L1	QC0024	Chip C, K300860NH
Q4	XT0059	Chip TR, 2SC3082KT96Q
Q5	XT0071	Chip TR, 2SC3837KT96N
R8	RK0035	Chip R, 2125MCR10102J
R10	RK0014	Chip R, 2125MCR10680J
R11	RK0038	Chip R, 2125MCR10182J
R12	RK0028	Chip R, 2125MCR10471J
R13	RK0010	Chip R, 2125MCR10390J
R14	RK0006	Chip R, 2125MCR10220J
R16	RK0025	Chip R, 2125MCR10331J
R17	RK0045	Chip R, 2125MCR10472J
R19	RK0056	Chip R, 2125MCR10223J

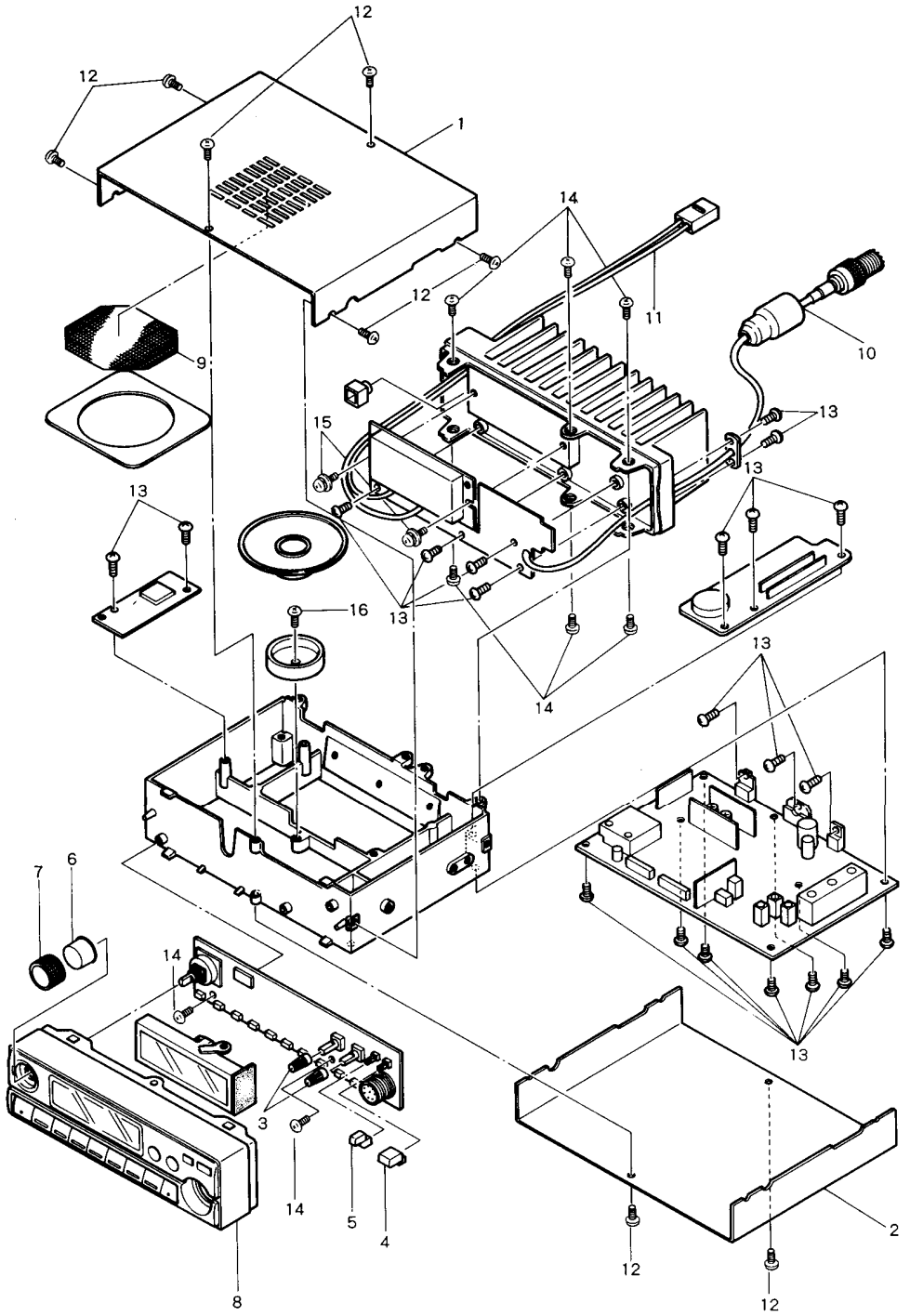
VCO Unit

C1	CU8016	Chip C, 2125CH1H102K
C2	CU8016	Chip C, 2125CH1H102K
C3	CU0004	Chip C, 2125CH1H030C
C4	CU8028	Chip C, 2125CH1H103K
C5	CU0004	Chip C, 2125CH1H030C
C6	CU0011	Chip C, 2125CH1H100D
C7	CU0009	Chip C, 2125CH1H080D
C8	CU0064	Chip C, 2125CH1H220J
C9	CU0001	Chip C, 2125CH1H0R5C
C10	CU0065	Chip C, 2125CH1H270J
C11	CU8016	Chip C, 2125CH1H102K
C12	CU0004	Chip C, 2125CH1H030C
C13	CU8028	Chip C, 2125CH1H103K
C14	CU0004	Chip C, 2125CH1H030C
C15	CU0061	Chip C, 2125CH1H120J
C16	CU0066	Chip C, 2125CH1H330J
C17	CU0060	Chip C, 2125CH1H470J
C18	CU0011	Chip C, 2125CH1H100D
C19	CU8016	Chip C, 2125CH1H102K
C20	CU0060	Chip C, 2125CH1H470J
C21	CU8016	Chip C, 2125CH1H102K
C22	CU8016	Chip C, 2125CH1H102K
C23	CE0198	Chemical C, 10 V MS5 100M
TC1	CT0021	Trimmer C, ECRJA010A 12W
TC2	CT0021	Trimmer C, ECRJA010A 12W
L1	QC0045	Chip L, NL322522T3R3M
L2	QK0042	Coil, 3×5×0.6
L3	QC0045	Chip L, NL322522T3R3M
L4	QC0045	Chip L, NL322522T3R3M
L5	QK0041	Coil, 3×4×0.8
L6	QC0039	Chip L, NL322522T1R0M
R1	RK0018	Chip R, 2125MCR10101J
R2	RK0056	Chip R, 2125MCR10223J
R3	RK0052	Chip R, 2125MCR10103J
R4	RK0018	Chip R, 2125MCR10101J
R5	RK0011	Chip R, 2125MCR10470J

Ref. No.	Part Code	Part Name and Number
R6	RK0027	Chip R, 2125MCR10391J
R7	RK0069	Chip R, 2125MCR10104J
R8	RK0052	Chip R, 2125MCR10103J
R9	RK0037	Chip R, 2125MCR10152J
R10	RK0067	Chip R, 2125MCR10823J
R11	Rk0073	Chip R, 2125MCR10224J
R12	RK0011	Chip R, 2125MCR10470J
R13	RK0021	Chip R, 2125MCR10181J
R14	RK0048	Chip R, 2125MCR10682J
R15	RK0052	Chip R, 2125MCR10103J
R16	RK0052	Chip R, 2125MCR10103J
R17	RK0035	Chip R, 2125MCR10102J
D1	XD0040	Chip D, DAN202KT96
D2	XD0010	Chip D, ISV164T1
D3	XD0101	Chip D, ISV166T1
D4	XD0101	Chip D, ISV166T1
D5	XD0094	Chip D, ISS153T1
Q1	XT0075	Chip TR, 2SC2757T1
Q2	XE0010	Chip FET, 2SK508K52T1
Q3	XT0037	Chip TR, 2SK508K52T1
Q4	XE0011	Chip FET, 2SK508K51T1

Ref. No.	Part Code	Part Name and Number

■CABINET PARTS LOCATION



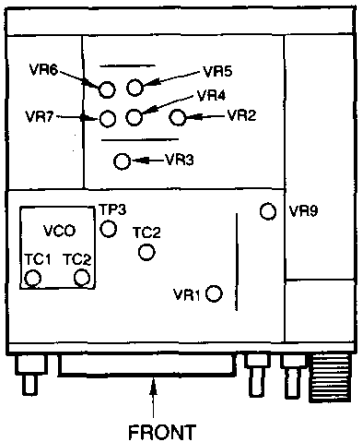
Ref. No.	Part Code	Part Name and Number
Mechanical Parts		
1	KS0032	Upper Case,
2	KS0031	Lower Case,
3	NK0010	Vol Knob,
4	NP0015	Power Knob,
5	NP0016	HI/LO Knob,
6	NK0009	Dial Knob,
7	ND0004	Dial Cover,
8	KM0055	Front Panel,
9	FF0013	SP Sheet,
10	UF0053	Coaxial Cable,
11	UA0002	DC Power Cable,

Screws		
12	AA0031	M2.6×5,
13	AJ0015	2.6×6 (tap),
14	AA0027	M2×4,
15	AD0001	M3×8,
16	AJ0005	3×8 (tap),

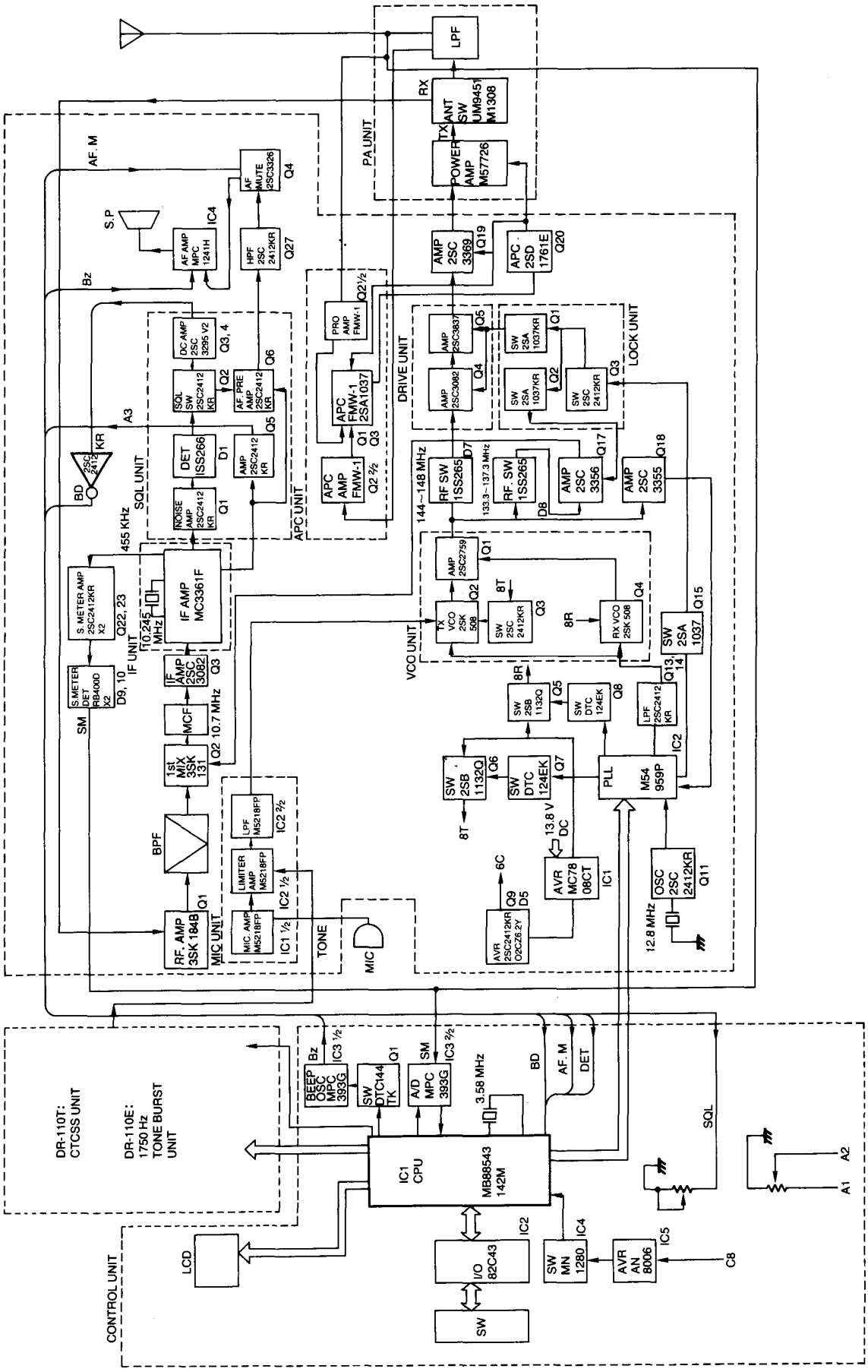
■ ADJUSTMENT

Item	Adjustment point	*Adjustment method*
VCO P/D Voltage (RX)	TC2 (VCO Box)	Adjust TC2 so that the voltage of TP3 is 4V on the receiving mode.
VCO P/D Voltage (TX)	TC1 (VCO Box)	Adjust TC1 so that the voltage of TP3 is 3V on the transmission mode.
Frequency	TC2 (Main Board)	Set the unit in the transmission mode at 145.00 MHz and adjust TC2.
Power output	VR6 (Hi)	On "HI" position, turn VR6 for 45 W output at 145.00 MHz.
	VR7 (Lo)	On "LO" position, turn VR7 for 5 W output at 145.00 MHz.
RF Power Meter	VR4	Turn VR4 so that three segments will light on "LO" position.
Deviation	VR3	Input a signal of 1 KHz/25 mV into the MIC jack and adjust VR3 so that you obtain 4.9 KHz/Dev in the transmission mode.
MIC Gain	VR2	Input a signal of 1 KHz/10 mV into the MIC jack and adjust VR2 so that you obtain 4.0 KHz/Dev in the transmission mode.
Protection Circuit	VR5	Disconnect the antenna in the transmission mode and adjust VR5 so that the current consumption will be 5A.
Subaudible Tone Deviation (DR-110T)	VR1 (Tone squelch board)	On the "ENC" mode at 146.00 MHz, turn VR1 so that the deviation is 0.7 KHz.
1750 Hz Tone Deviation (DR-110E)	VR1 (Tone burst board)	Pressing Tone button at 145.00 MHz, turn VR1 so that the deviation is 3.5 KHz.
S-Meter (SG output: 3 dBμ EMF)	VR1	Turn VR1 so that the [1] begins to light.
Squelch Sensitivity (SG output: −6 dBμ EMF)	VR9	Turn the squelch control fully clockwise and turn VR9 so that the squelch will be closed at the SG output of −6 dBμ.

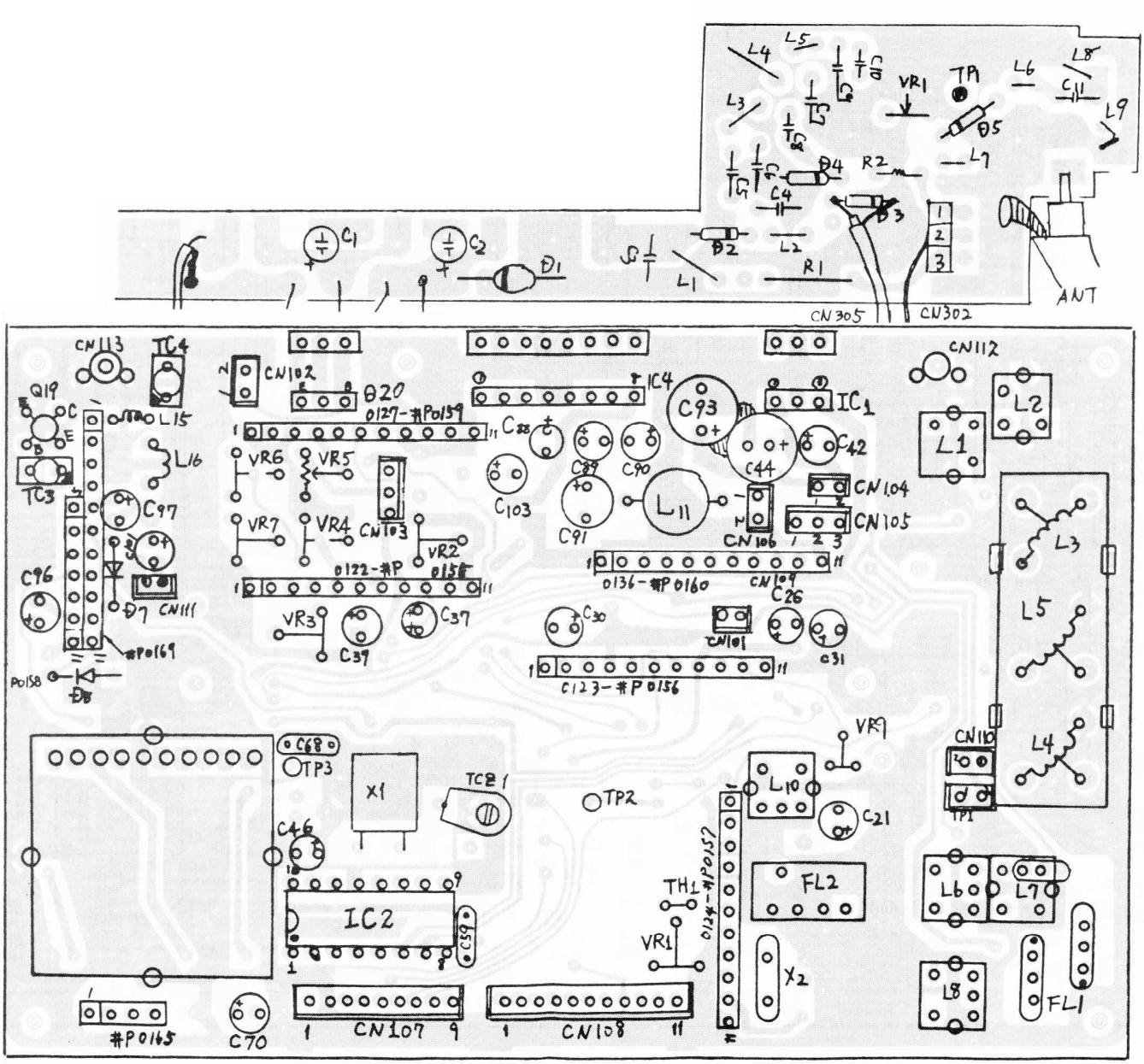
Upper Side View



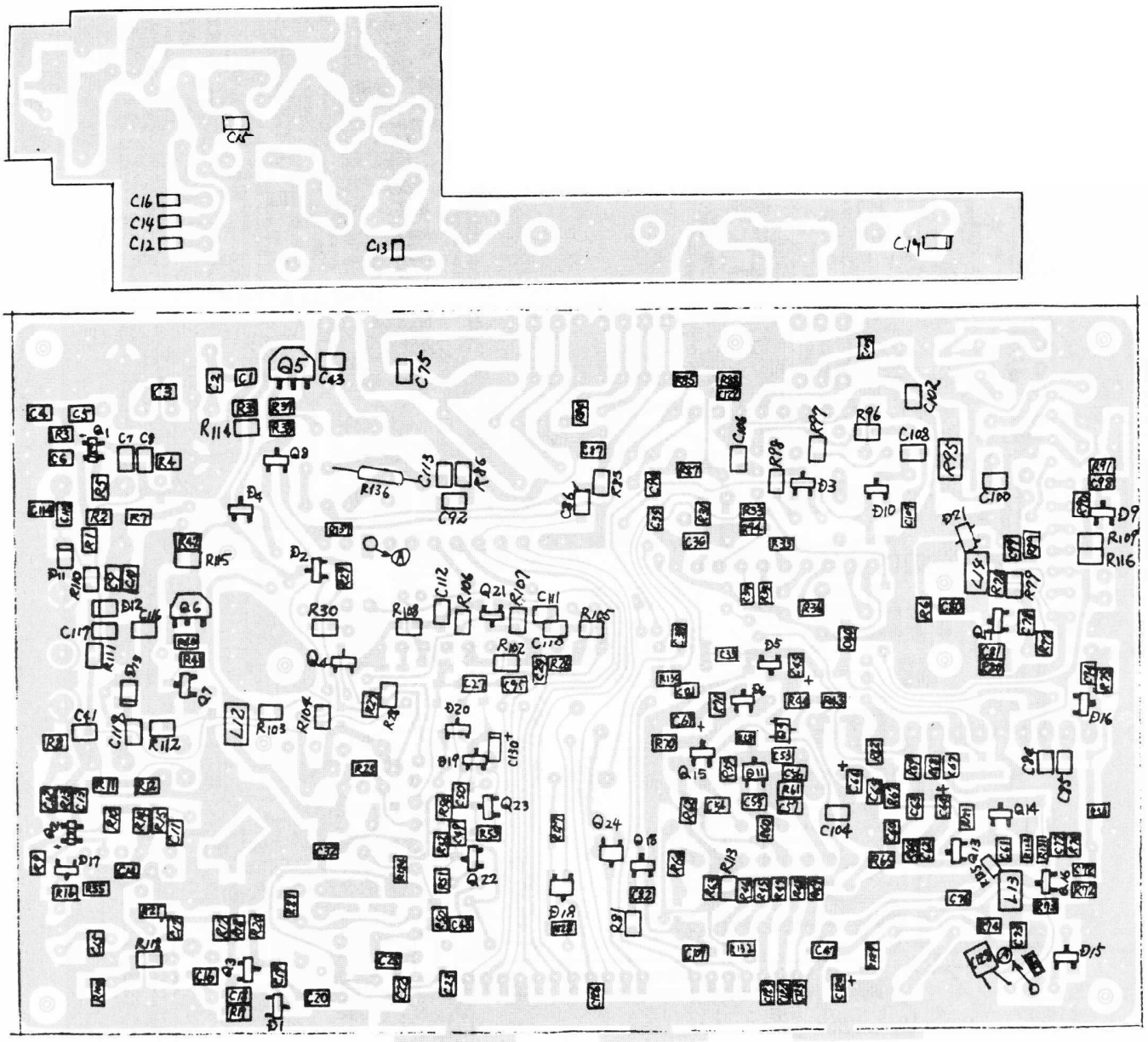
■ BLOCK DIAGRAM



■ VHF MAIN PC BOARDS



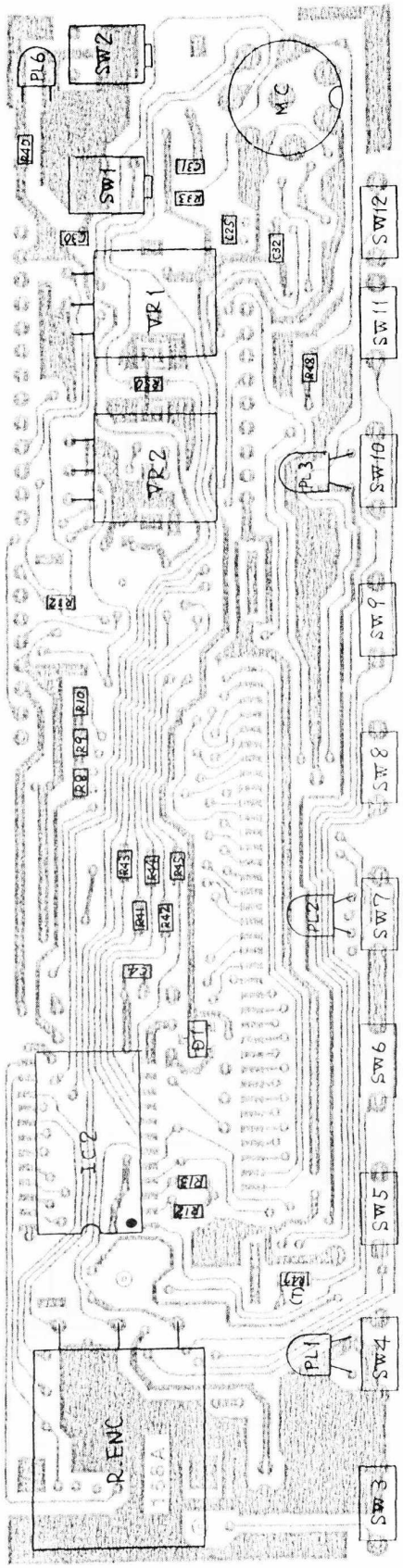
(Part)


C16
C14
C12
C13
C141
Q5
C43
C75
R114
Q8
C7 C9
R136
C113
R96
C108
C100
D3
D10
D9
R109
R116
R105
D2
R30
Q21
C111
D5
D6
Q4
Q7
D20
D19
C130
Q15
Q14
Q23
Q22
Q24
Q16
D18
D17
D1
D15
L12
L13
R103
R112
C104

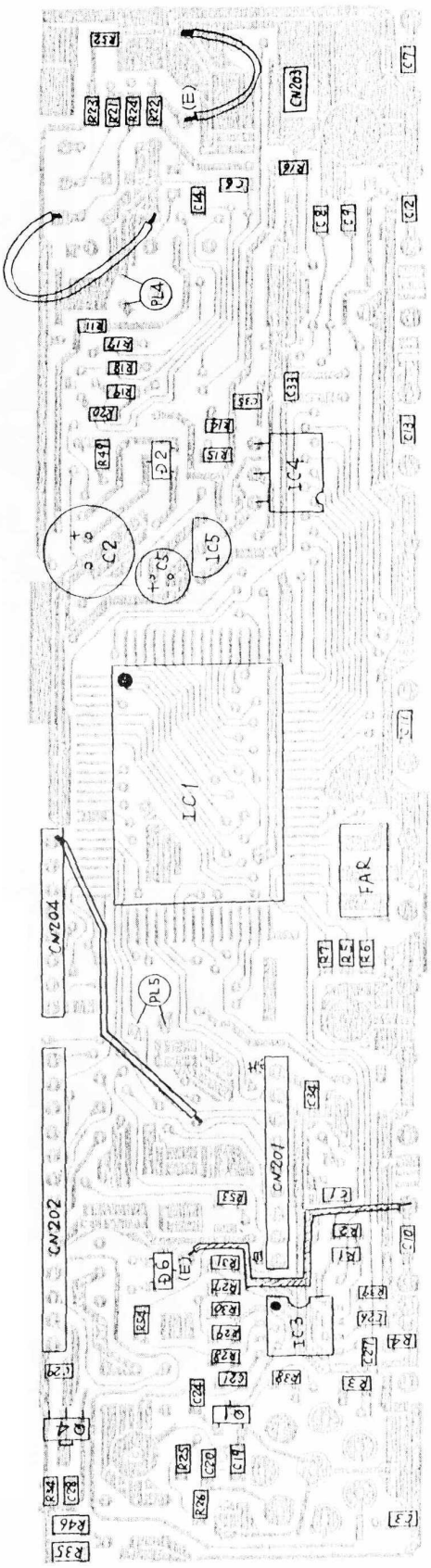
(Solder)

■ CONTROL PC BOARDS

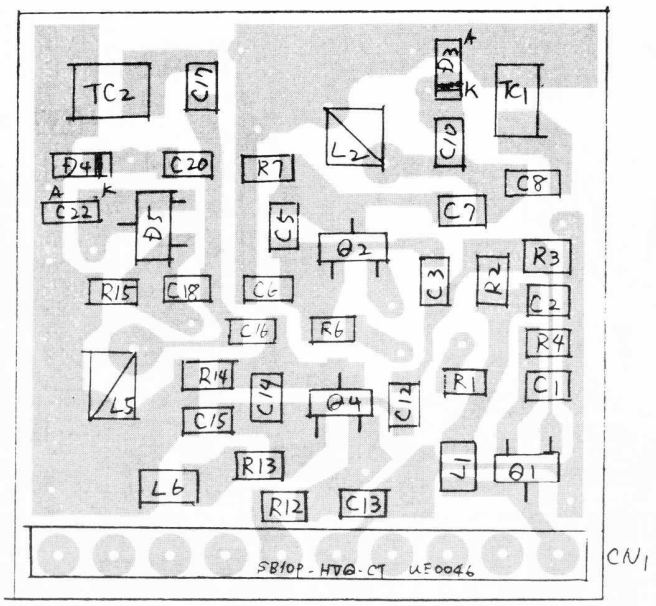
(LCD)



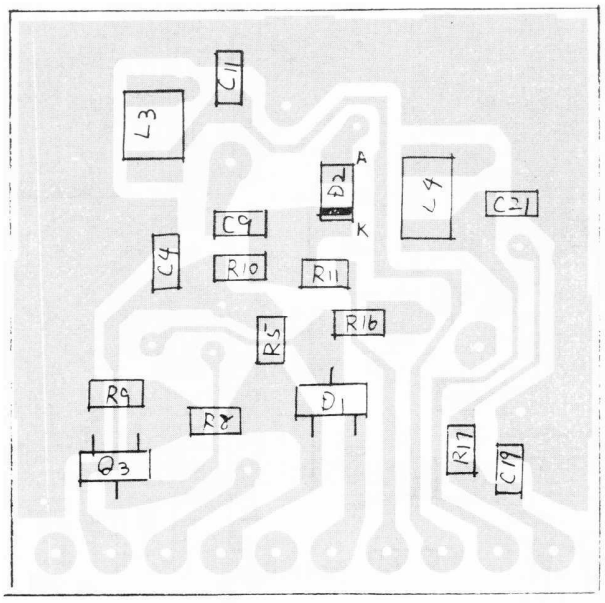
(CPU)



■ 144 VCO PC BOARDS

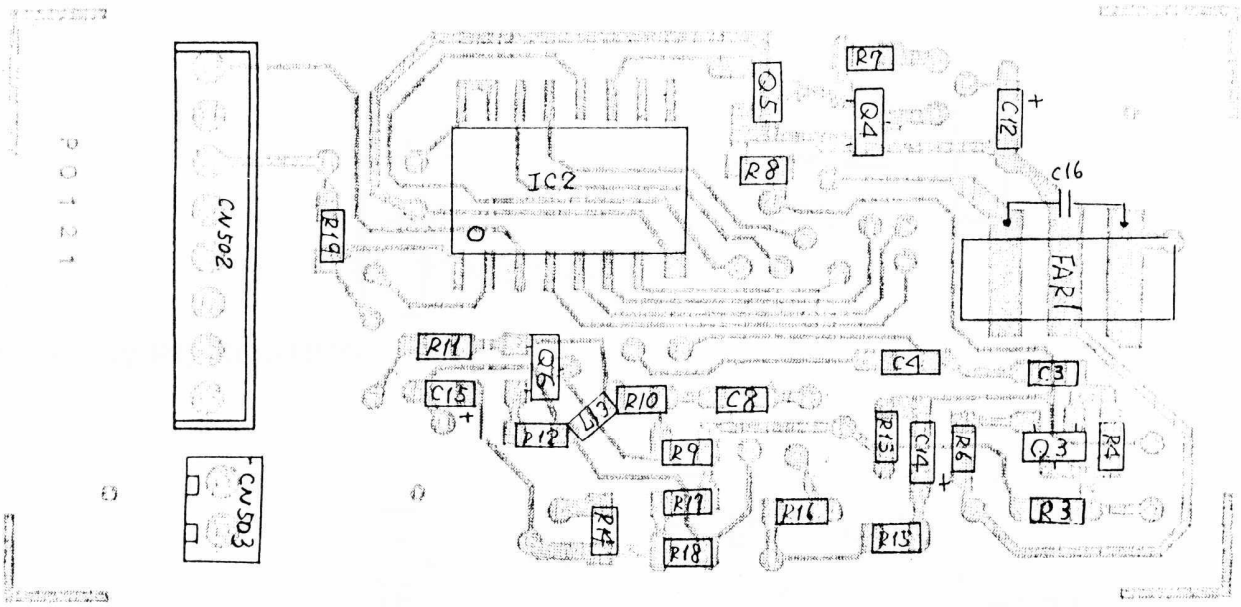


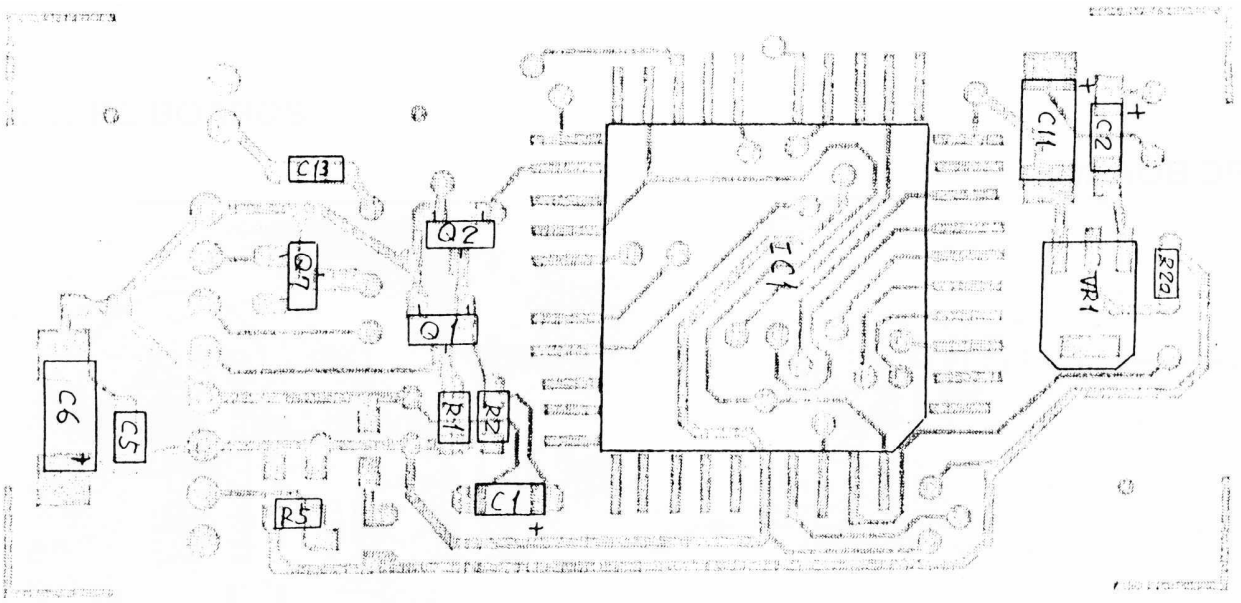
(Part)



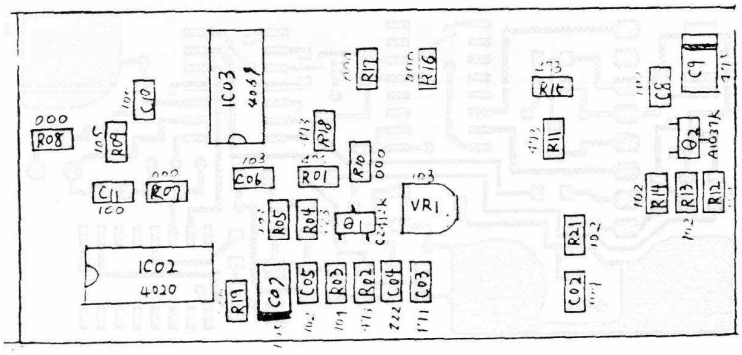
(Solder)

■ TONE SQUELCH PC BOARDS (DR-110T Only)

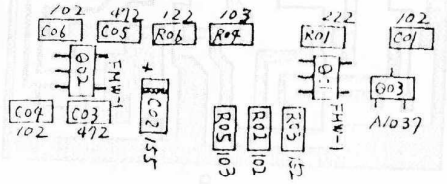




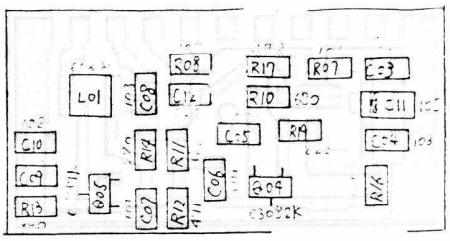
■ TONE BURST PC BOARDS (DR-110E Only)



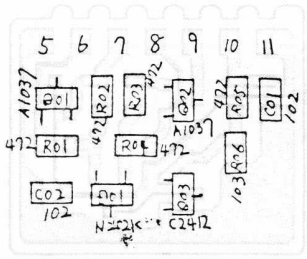
■ APC PC BOARDS



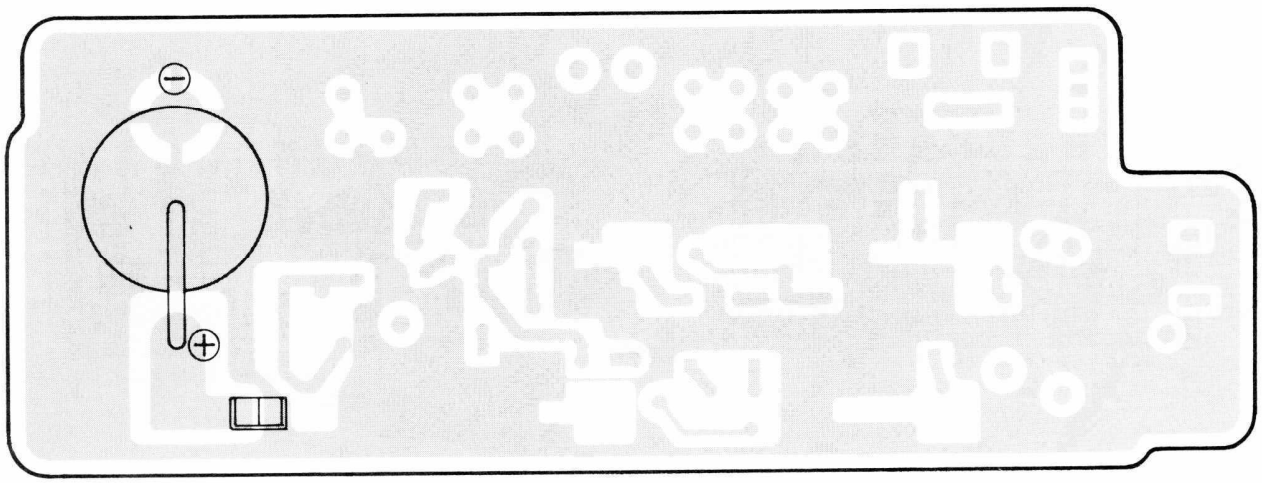
■ DRIVE PC BOARDS



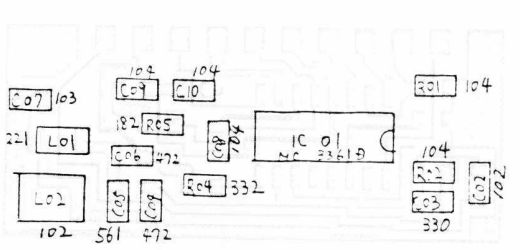
■ LOCK SW PC BOARDS



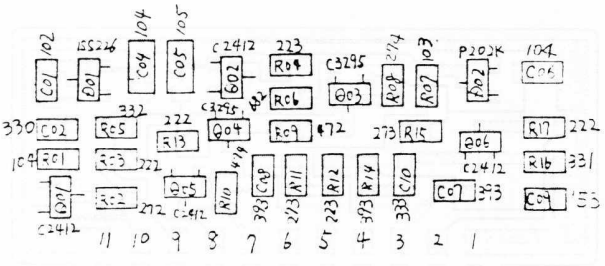
■ LI BAT PC BOARDS



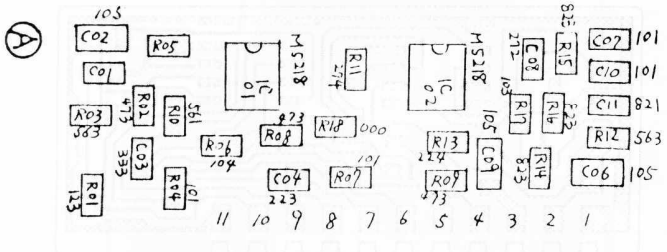
■ IF PC BOARDS



■ SQL PC BOARDS



■ MIC PC BOARDS



■ SPECIFICATIONS

■ General

Frequency Coverage	144.0~148.0 MHz (DR-112T) 144.0~146.0 MHz (DR-112E)
Antenna Impedance	50 ohms unbalanced
Power Supply Requirement	13.8 Volts D.C.
Current Drain at 13.8 V	Receiving abt. 0.5 A Transmitting abt. 9.5 A (Hi) abt. 4.0 A (Lo)
Dimension	140 mm (W)×40 mm (H)×170 mm (D) (5½"×2"×6¾")
Weight	Approx. 1.1 kgs. (2.64 lbs.)

■ Transmitter

Output Power	High; 45 Watts Low; Approx. 5 Watts
Emission Mode	16F3
Modulation System	Variable Reactance F.M.
Max. Frequency Deviation	±5 kHz
Spurious Emission	60 dB below carrier
Microphone	Electret Condenser Microphone
Operating Mode	Simplex Duplex ±600 kHz, 1.6 MHz, 5 MHz, 7.6 MHz or odd splits from receive frequency
DTMF Encoder	Built-in (U.S. Version)

■ Receiver

Receiving System	Superhetrodyne, dual convension
Modulation Acceptance	16F3
Intermediate Frequency	10.7 MHz/455 kHz
Sensitivity	12 dB SINAD less than 0.16 μV
Selectivity	More than ±6 kHz at −6 dB Less than ±12 kHz at −60 dB
Audio Power Output	abt. 2 W (8 ohms-10% Distortion)
Speaker Impedance	8 ohms

*Subject to change without notice.

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Dealer/Distributor